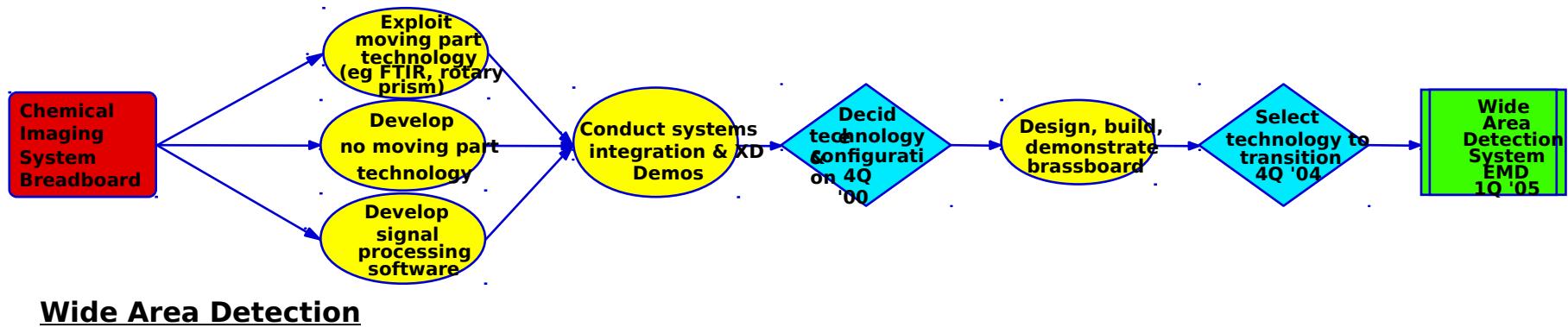


CB19.01 CHEMICAL IMAGING SENSOR



Current



Goal

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CB19.01 CHEMICAL IMAGING SENSOR



OUTLINE

- Definition
- Program Overview
- Technical Challenges
- Possible Technologies
- Benefits
- Summary

CB19.01 CHEMICAL IMAGING SENSOR



Definition

Chemical Imaging Sensor Program was initiated to develop a sensor capable of rapidly detecting chemical agent vapors for the purpose of contamination avoidance and reconnaissance and build a lightweight wide area passive standoff imaging detection. The system will allow rapid evaluation of large areas for CW contamination and provide detailed information as to position of a CW agent cloud.



Program Overview

Objective: To build a lightweight wide area passive standoff imaging detection system capable of rapidly detecting chemical agent vapors for the purpose of contamination avoidance, reconnaissance, and facilities evaluation. The final fielded system will operate at 360 Hz with a large format plane array and is scheduled for transition to EMD in FY05.



Technical Challenges

- HIGH SPEED
- FOCAL PLANE ARRAY TECHNOLOGY
- SIGNAL PROCESSING
HARDWARE/SOFTWARE



Possible Technologies

- Interferometers
- Tunable Filters (Farby-Perot, AOTF)
- Dispersive Systems (Prism, Gratings, etc.)
- Others

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BENEFITS

- Rapid Evaluation Of Large Areas For Reconnaissance And Contamination Avoidance
- Capable Of being Deployed From Many Platforms (Ground/Low And High Flying)
- Improved Discrimination and False Alarm Rate

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Future Plans

CURRENT DTO OBJECTIVES

- FY99 - Demonstrate Real Time Operation At 30 Hz (9 Pixels)
- FY00 - Demonstrate 16 pixel Spectrometer at 100 Hz (Off-Line Processing)
- FY01 - Demonstrate Real Time Operation At 100 Hz (16 Pixels)
- FY02 - Demonstrate 16 Pixel Spectrometer at 360 Hz